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SCIENCE.

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COMMENT AND CRITICISM.

IT MAY NOW BE SAID to be the fashion for individuals of great wealth to make bequests to found new institutions of learning, or in general to help on such institutions already in existence, and in particular to endow specific departments of research. But it is much more than a fashion. We may presume that those making such bequests desire, in large majority, that the greatest good shall come from their gifts — if not in the advancement of knowledge, then in its diffusion among men. To be sure, we have many princely donations nowadays, which, while they provide for the worthiest of objects, are paraded in the public prints as if ephemeral notoriety were all the donor thought of. But this sort of bequest is growing increasingly less, and the ultimate substantial good is coming to be regarded uppermost.

It is indicative of a solid growth in our country, that an increasing proportion of its wealth is turned into the channels of education and science. What it took European nations hundreds of years to find out, the shrewdest of our public benefactors are fully aware of, — that no earthly institutions are so stable and enduring as the great colleges and universities; that solid endowments in these institutions have a lease of life which not even nations themselves can be sure of; and that funds thus deposited preserve their integrity when other forms of investment undergo complete dissipation. The chief institutions of higher education in America have an excellent record to exhibit in the management of the funds in-

trusted to their guardianship. They are not thought of ordinarily as at all different from other institutions and corporations which exist solely for self-remunerative interest. No college or university exists to make money. The income of such institutions is very largely derived from funds which have been given to them; and while fees are received, and make up a part of the income, they expend all they receive, as a rule, and only hope to receive more that they may give more. So, also, it is with all departments and organizations for scientific research.

‘The more one has, the more one receives,’ seems to be exemplified in the finances of our greatest university, the observatory of which has just received a bequest of nearly three hundred thousand dollars from the will of the late Mr. Robert Treat Paine of Brookline, Mass. The observatory receives one-half of this amount at once, — a sum large enough to enable the early resumption of the important researches which, through lack of funds, it became necessary to discontinue at the close of last year, — the remainder on the death of his widow. Mr. Paine died recently, at the advanced age of eighty-one years. Although not a professional astronomer, he was well known to all the astronomers of the present generation. His immediate contemporaries in the science have all, we believe, passed away. Mr. Paine took special interest in the prediction and observation of solar and lunar eclipses; and the persistency with which he followed these phenomena, even in late years, makes it probable that he had observed more eclipses than any other person. Also he made meteorological observations of great value; and his record of barometric and thermometric readings at a

single spot in Boston is said to be continuous for more than fifty years.

While Mr. Paine's bequest is at present chiefly noteworthy as enabling one important institution, temporarily embarrassed, to proceed with its work, and is thus most timely, it is also worthy of remark that it ranks high among specific bequests by scientific men themselves. That they rarely make large bequests, we presume to be no fault of their own, as but few of them ever come into the possession of great wealth, and fewer still are able to accumulate much more than enough to provide respectable support for their families. That Mr. Paine has done much more than this, is evident from the magnitude of his bequest; and it is gratifying to see so deserving an institution as the observatory of Harvard college come into the possession of an endowment copious enough to insure not only the continuance of its remarkable activity during recent years, but a considerable growth into new lines of research.

THE FIAT HAS GONE FORTH that in several of our cities the various telegraph, telephone, and electric-light wires must go underground within a very few months, and in New York a commission is shortly to be appointed to see that the legislative enactments are carried out. There are probably few competent persons, who have carefully and dispassionately considered the subject, who are not satisfied that an attempt to hurry this matter, and subject the wires to a premature burial, is, to say the least, extremely unwise. That it is scientifically practicable to work telegraph and telephone wires for short lengths underground, is unquestionable; but few persons who have not investigated the subject realize the great practical difficulties involved, and the very large expense required to insure satisfactory results. With the high-tension currents used in arc-lighting, additional difficulties are encountered that have not yet been satisfactorily surmounted. That the rapid increase of overhead wires is produc-

tive of much annoyance and danger, is evident to all; and even those most averse to legislation feel that most of the wires must eventually be placed underground. But in this, as in all matters which are still in an experimental stage, the only safe maxim is to hasten very slowly.

A RECENT PUBLICATION of the Society for the promotion of agricultural science—the second made by the society—contains the papers read at the Minneapolis meeting in 1883, and the Philadelphia meeting in 1884, together with a lecture by Dr. J. H. Gilbert on agricultural investigations, and lists of members of the society and of American experiment-stations. Thirteen papers were presented,—seven in 1883, and six in 1884. Some of these are of scientific interest, while it is difficult to see how others serve to advance agricultural science. The object of the society is a most praiseworthy one; but we doubt whether at present enough really scientific work is done in this country in the field of agriculture to render such a society necessary as a means of publication, however useful it may be as a means of bringing together for consultation and discussion those interested in agricultural science.

LETTERS TO THE EDITOR.

**.* Correspondents are requested to be as brief as possible. The writer's name is in all cases required as proof of good faith.*

Velocity and sediment.

MR. B. M. HARROD, in his note in *Science* of June 13, says that observations do not confirm the suggestions of Mr. Login as to an intimate relation between velocity and sediment. While stating negations, he might well have added, Neither does observation support the speculative dogmas laid down as fundamental truths by the Mississippi-River commission in its reports; for the Login notion pervades those reports, it having been adopted by Capt. Eads, and Capt. Eads's views having been adopted by the commission.

Mr. Harrod now amplifies a statement of Capt. Brown that the controlling influence of the Missouri over silt movement in the Mississippi is felt at the passes thirteen hundred miles below. As an interpretation of observations, the statement and its amplification are questionable.

Proceeding in his effort to throw the Login-Eads notion overboard, Mr. Harrod cites facts concerning erosion below Cairo to show that the more heavily silt-laden water on the west side of the river is also more active as an agent of erosion than the clearer water on the east side. Would not a muddy subject be clearer, if the idea of erosion as the cause of